Truth Is a Thing of This World: A Foucaultian Analysis of the Discursive Construction and Constitution of Cooperative Design[1]

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Abstract

How does the expert domain 'Cooperative Design' construct and constitute itself discoursively as a discipline in the field of Scandinavian System Design? In relation to this question this paper will explore some central themes within the discipline and show how it constructs its topic and domain in a discourse based on the concept of the computer as a tool. It will further examine how the discipline establishes a régime of truth by using a specific terminology when referring to the relationship between designers and users. The discourse and the phenomena, objects and problems which lie in it will be seen in relation to its historical, societal and institutional terms of possibilities. Through the means of a diachronic analysis it will be shown that the cooperative discourse has changed in certain ways, without reflecting upon its own initial terms. Thus the analysis locates some contrasts in the discourse, especially between an explicit avoidance of the rationalistic Cartesian way of thinking and at the same time a lack of acknowledgement that its own discursive practice is still marked by it. This will partly be discussed in the light of Foucault and partly by sociological and anthropological insights concerning scientific practice.

Keywords: Cooperative Design, Foucault, Ethnography

BRT Keywords: AJ, AI

Introduction

This paper points to the development of Cooperative Design theory whereas I see some similarities between the newer development in the theoretical foundation of anthropology in terms of how to do ethnography, and the way the practitioners in the field of user-centred design have tried (and still try) to develop a useful approach for involving users as true partners in the development of computer systems.

In recent years there has been a discussion in anthropological circles about avoiding a hegemonic discourse when representing the community being studied. In user-centred design the question has been how to avoid a functionalistic point of view when making system design. The anthropological way of solving this problem has primarily been to examine the politics of representation; to explore the concept of culture and

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[1] The paper is based upon my thesis "Sandhed er af denne verden. En diskussion af Foucaults teoretiske fundering *og* en analyse af Cooperative Designs diskursive konstruktion og konstitution" (1998).

hereafter implementing a new discourse which steers away from dichotomies such as e.g. traditional versus modern cultures (Abu-Lughod, 1993; Ingold, 1993). In the field of Cooperative Design the practitioners have tried to do a similar thing by implementing a new discourse which relates to users; designers; the computer and system development. This discourse is complementary to an array of existing dichotomies which have formed the disciplines point of departure from the beginning in the 1970:es. However a deeper look into the discourse will reveal that it still contains some of the aspects it intends to bury.

With an introduction to Foucault's research strategy, this paper will show that the discourse is a way for the discipline to simultaneously claim its legitimacy and autonomy and at the same time oppose itself to related and rival disciplines. But in doing this, the practitioners limit the innovative development of the discipline, because the discourse (despite of it being a contrast) is inherited from and shared with adjacent and antecedent discourses. Thereby is it difficult to find new ways of examining the discipline, as the discourse unambiguously makes the practitioners focus on the system developmental part of their practice. By this I imply that the practice of system design also includes a practice which is rarely mentioned in these circles: the written one. To some extent this analysis will be concentrated on this unrecognized practice.

The Foucaultian way of analyzing an expert domain

Explaining Foucault's methodology in a short note is not an easy task. This is due to the historical obstacles and to the formulaic aspiration that lay in his approach, which I can only comment in the passing.

I wish to emphasize the fact that Foucault is writing contemporary history by analyzing previous epistemes institutionalized discourses. When Foucault speaks of institutionalized discourses, he refers to a discourse that is related to what he characterizes as the human sciences, e.g. medical discourse. An important aspect in Foucault's thinking is that he objects to the search for lost origins. Instead he is interested in examining historic terms of possibility, by which he means, the terms that have made specific institutional domains or specific discourses possible at a given time.

To be able to examine the terms of possibility one must include a number of relations. According to Foucault the relations in the case of Cooperative Design will be the society's development; the political streams; the technological development; the academic world and other related disciplines within Scandinavian System Design. These relations must be taken into consideration, because the designer gets his knowledge from the place and space in which he is situated. But at the same time as the designer gets his knowledge and discourse from parts of the institutional domain, is it also from here:

"this discourse derives its legitimate source and point of application". (Foucault, 1972:51).

Discourse in Foucaultian terms is a group of statements, which constructs a topic in a certain way. This means that discourses are more than just words and their signifying elements, as it is known from Structuralism. A discourse is a practice, that influences the subject and speaks through it. Hereby one might say that a discourse is a kind of language, which forms our knowledge and shapes our understanding. Understood in this way, knowledge specifies what can be said about objects and phenomena in a domain of knowledge. (Foucault, 1972: 48-49, 182-83)

If one examines the fact that knowledge specifies what can be enunciated, one will see that not only objects and phenomena are produced in and via discourses - the process also involves the definition of those who have rights of access to the discourse.

This is because a discourse actively defines what can be said and who among the totality of individuals has the right to speak. In this way experts, their interests and domains of expertise will appear, because the specific character of a given discourse is a product of a discourse, not its foundation. To put it differently, in the same way as objects and phenomena are produced in a discourse, users of a specific discourse are also defined by the discourse (Foucault 1978:50-55, 68). By having one's focus on this, one will be able to see how an expert domain appears, which is to a high degree connected to a form of legitimacy, because a discipline seeks to individualize itself in relation to other disciplines in a way, which makes it unique and legitimate. In this way the legitimacy of a discipline is tied to a clearly defined area, by which it can raise itself by acting as the representative of a particular constituency - in the case of Cooperative Design it is the users. Once this has been achieved, a discipline can speak its own truth:

> "Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its régime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned, the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true." (Foucault, 1980: 131)

The site of knowledge: the computer as a tool[2]

In Foucault's terms, the site of knowledge is the place where experts and their knowledge will appear, if one examines the objects and phenomena which are enunciated. I will consequently argue that the concept of *the computer as a tool* is the site of Cooperative Design's knowledge and practice. For, as I will show, Cooperative Design's individuality and legitimacy stems from its claimed knowledge about an influence-weak but knowledge-strong user. Hereby the computer must be the object the discipline wishes to change and improve, and as such, is it fundamental to Cooperative Design's disciplinary aspiration. Thus, from this site, one can gain an insight into who has right of access to the discourse, and how different objects and phenomena are enunciated in such a way that they become discursive objects.

The definition of the computer as a tool, as the site for understanding Cooperative Design's discursive objects (users and their practices; designers; technology; conflicts and democracy), can analytically be deconstructed.

First, Cooperative Design seeks to break down the system theoretical point of view of users as marginal in relation to computer systems:

> "In our view, artifacts, computers as well as other tools, should be understood via the human use of them." (Ehn & Kyng, 1991:169-170).

This interpretation, where the computer is not seen as a controlling piece of technology, but as a tool, makes it possible to talk about the knowledge-strong user; about egalitarian

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[2] A similar analysis is to be found in Cooper & Bowers (1996) "Representing the User: Notes on The Disciplinary Rhetoric of HCI", which has been a source of inspiration for this analysis of Cooperative Design. The differences between the two analysis is the divergence of disciplinary areas, and that this analysis includes the non-discoursive areas (institutions; political events; economic practices and processes) in order to be able to lay bare the terms of possibility of Cooperative Design.

relations and about work skills, because the tool-metaphor will direct ones focus towards the user and the use-situation:

> "When viewing the use of computers from a tool perspective, one focuses on the individual use. A computer application is seen as providing user with a tool-kit containing tools which under complete and continuous control of the user can be applied to fashion material into more refined products. The user is seen as a person who possesses skills relevant within the domain. Computer-based tools are developed to be used by skilled users to create high-quality products. The tool perspective is deeply influenced by the way the design of tools has taken place within traditional crafts. The idea is that a new tool is developed as an extension of the accumulated knowledge of tools and materials within the domain. As a consequence of this, design must be carried out by common efforts of skilled, experienced users, and computer professionals." (Bødker, Ehn, Kyng, Kammersgaard & Sundblad, 1987:261).

Second, this interpretation of the computer can be used to validate the development and extension of the discipline's domain of expertise about social understanding and technological insights. For example in his advocacy of Cooperative Design, Kyng (1995-96) accentuates that the wish of perceiving the computer from the use-situation slowly is gaining in the broader field of system design:

> "This development is mainly driven by the use of computers, i.e. from the outside, not the inside, of computer science. […] Thus to address from the University of Hamburg to the recent 13th IFIP World Congress the speaker pointed to the need to cater for both democratic values and ecologically sound development. […] The changes and the need for reorientation are just beginning to attract wider attention in the scientific community and the kind of re-orientation called for is not something that happens overnight. However, a body of research already exists that as a part of its very base incorporates a number of the concerns raised above. […] Two examples from my own work are the DUE and the UTOPIA projects." (Kyng, 1995-96:3-4).

In both cases the technology and its definition is used to claim the discipline's importance. The rhetoric effect of viewing the computer from the human use, is that Cooperative Design, which seeks a:

> "contextual/romantic/non-functionalistic" (Kyng, 1995-96:5)

way of understanding system design, represents necessary respondents to hitherto unrecognized design problems, and that their long term experiences with socially deterministic based design, may be a question of necessity. Furthermore, Kyng's statement about the present advertisement in system design is based on societal and social-technological insights, which is a part of the constitution in Cooperative Design's discourse.

The social-technical discourse

In the 1970:es Foucault developed a philosophy about power without matriculating the term into a political theory as known from Marx (who sees power as an instance of repression, as a binary struggle between oppressed and oppressor). At the same time thoughts about system design which took their departure in Marxistic ideology were being formulated at the University of Aarhus.[3] These thoughts ought not to be seen in

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[3] In Foucault's theoretical foundations power is not intentional, and can't be related to a determining dimension as e.g. the capital. Power is instead a productive

isolation, but as a part of the general political radicalization, which took place in an array of industrialized countries, and which culminated with the student revolt in 1968 in France (Bansler, 1987:82).

This is connected with Scandinavian System Design because one can roughly find two discourses which are related to computer technology and its situated context. These are a technological and a social deterministic discourse. The social deterministic discourse within Scandinavian System Design can be deconstructed into two complementary parts: a harmony and a conflictual discourse.

The harmonic discourse is similar to the one you find within the socio-technical tradition. The conflictual is identical with the one you might find in the discipline of Cooperative Design. In the last mentioned discourse the society is regarded as a site for an ongoing power struggle, because structures of the society are seen as the product of power, which different groups in the society use against each other (Aarhus Konferencen, 1975:241-242).

The social deterministic and conflictual discourse in Cooperative Design makes it possible for the practitioners to talk about system design as conflict-laden. This is due to the fact that system design, via rationalizing computer technology, is influenced by society and companies, which constitutes the site of repression from capitalism. Hereby, the computer is a discursive object, which can function either as an oppressor, or (as the way Cooperative Design understands it) a liberating resource, that contributes to the workers struggle for a better and more democratic work life:

> "[…] one of the determining factors in management's choice of strategy towards a group of workers is whether that group is central or peripheral to management's interests in capital accumulation and control. Skilled workers or workers in areas with labour shortage may for instance be approached differently than migrant workers, women and other resource weak groups. […] This bring us back to the beginning, adding to the objective side of societal tendencies, the subjective side of interests of different groups or classes in society, and may be formulated as a last thesis on changes of technology and work: *Class struggle is an important aspect of actual changes in labour processes. Not only of the the use process designed, but also of the systems design process and of possible integrations in the future.*" (Ehn & Kyng, 1987:37-38, original italic and "the the use")

The only way computers can be a liberating resource to the workers, is by influencing the introduction and the development of systems. The influence should be formed in a cooperation between designers (who have a social knowledge about technology and its effects) and the workers (who possess skills, but are powerless), so that the future system will support the users skills; needs; demands and interests. In this way users and designers are respectively created as new discursive objects within Cooperative Design: the first as influence-weak yet knowledge-strong users, the last as technological humanists, who want to increase democracy and empower the weak party.

However, this cooperative discourse is not just a specific way of speaking of different phenomena and objects, it is also a way to differ from other disciplines. For example the conflict-laden discourse is a specific way of speaking of and legitimizing Cooperative Design in relation to other disciplines. It is for instance Cooperative Design that equalizes power by taking care of the users interests, and the other disciplines that oblige the interests of capital and hereby maintain the existing power. In this way a notion is created that *we* are emancipating and *they* are hegemonizing. This is why it is a necessity that Cooperative Design exists with its social understanding of society; technology; work life; users and designers.

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network, which does not mark borders, but actively produces knowledge and discourses. (Foucault, 1980:119).

Egalitarian relations—a régime of truth?

As mentioned, Cooperative Design legitimizes itself as an alternative to the system theoretical school and the socio-technical tradition. This must be seen in relation to the fact that the discipline has developed against an array of existing dichotomies:

> "formal versus empirical, hierarchic versus egalitarian, universal versus contextual, traditional science versus action research." (Markussen, 1994:62).

These dichotomies, which have made the discipline possible constitute a specific way of speaking about oneself. The empirical, egalitarian, contextual and the action oriented are all discoursive legitimizing elements, which differentiate Cooperative Design from the other disciplines in the field of Scandinavian System Design. I wish to show that this non-functionalistic, humanist and anti-technicist discourse is also a régime of truth.

Cooperative Design has for example a central and continual discourse about egalitarity. This presupposes that users and designers enter a work setting of mutual learning, where they are equal partners; the users are said to be skilled experts, the designers are technological experts:

> "[…] Clearly the experienced end-user, the skilled workers, must play an important role in the process. They posses the *tacit skills and knowledge that forms the basis for analysis and design*. The designer has to spend a lot of time trying to gain some insight into the specific work process. […] But of course, the designer also has to be a computer professional." (Bødker, Ehn, Kammersgaard & Sundblad, 1987:263, original italic).

But this discourse is also a specific way of speaking of users and designers: a picture is constructed about the other (the users) as technology-naive, who need technological experts to safeguard their interests. In this way the egalitarian discourse is a régime of truth, because it actually ranks users and designers.

Another example is to be found in the following quotation, where Greenbaum & Kyng (1991) argue that the difference between users and designers should be equalized by involving users in system development:

> "To system designers, the people who use computers are awkwardly called "users", a muddy term that unfortunately tends to focus on the people sitting in front of a screen rather than on the actual work people are doing. […] these users are all too often understood by system developers in "system terms". Just as the human observer misleadingly assigns meaning to what lions are doing based on the human's own world view, system developers tend to make sense out of the work of the users by applying their own system development concepts, often missing the understanding of the users which stems from a knowledge of and experience with the work being done. Wittgenstein's point in the lion riddle is that understanding between humans and lions is not possible because they don't share a common practice. Fortunately, we believe our possibilities for mutual understanding with users are much better. […] The authors in this part present their experiences as a way of creating room for users to act […]." [Grennebaum & Kyng 1991:3,5].

This is also a specific way of speaking of users and designers; for even though users are traditionally understood in system terms, Cooperative Design does not level the fact that it is the human being (the designer) who is interested in understanding the lion (creating room for users). I will say, that this is a régime of truth, which creates a room where users and designers interests are ranked hierarchically. When it is not the lion (the user) who wishes to understand the human being (the designer), one might say that the practitioners of Cooperative Design speak from a standpoint where they observe the users from their

own interests. Thereby users are understood by system terms, not traditionally system terms, but the ones being used in Cooperative Design.

Another régime of truth, I wish to emphasize, is to be found in a discourse, which I call the pluralistic discourse. It concerns reflexivity and subversion of existing dualisms. This pluralistic discourse is made possible by a discourse, which the practitioners of Cooperative Design name the Cartesian dualism. It has dominated rationalistic thinking and system design through time, and has influenced the practitioners of Cooperative Design (Greenbaum & Kyng, 1991:8-10). I my opinion, the Cartesian discourse, does not only dominate the rationalistic way of thinking and system design, it is a general discourse in the western part of the world and its sciences: we differentiate and divide; we objectify and subjectify; we judge others in our own terms, etc.

The practitioners of Cooperative Design do not care for the Cartesian way of thinking because it supports an objective and detached reflection and because it supports the existing power relations, which the discipline has located. With a reference to Kuhn's paradigm theory the practitioners of Cooperative Design emphasize that it is not possible to make a clean break with Cartesian dualism. But in acknowledging this influence, they will be able to understand how their practice and thinking gets trapped and limited by this, and how these limits:

> "may appear as "mistakes" in our practice, but are, in fact, embedded parts of the rationalistic world view and the accompanying system approach." (Greenbaum & Kyng, 1991:8)

One way the discipline tries to solve this problem is by implementing a self-reflexive way of thinking in their theoretical foundation. This is done by having a social constructionistic approach to system design:

> "In contrast with the rationalistic tradition of computer science, social constructionist theory veers ways from rigid poles like "objective-subjective", and steers towards understanding different, pluralistic perspectives of how we think and act. Seriously, system developers have little room to hide behind a mask of objectivity, for developers, like users, need to get involved in day to day activities and learn to share perspectives." (Greenbaum & Kyng, 1991:12).

By using this approach, it is possible for Cooperative Design to claim that it is eliminating some of the traditional existing dualism e.g. between objective and subjective and between users and designers. But as mentioned above, is this not the case – this is also a régime of truth. However the legitimizing effect of this is that Cooperative Design can claim and legitimize itself as a discipline which is able to revise itself and is up to date. This is due to the fact that the pluralistic discourse is not an isolated phenomenon in cooperative discourse: it is also found in lot of the newer disciplines and amongst the newer theorists. By using this pluralistic discourse together with the previous discourses from the 1970-80:es the legitimizing effect is even larger: Cooperative Design can claim an important place in the larger context of system design by emphasizing the long-term experiences (which verify the disciplines utility) *and* by laying emphasis on novelty they can claim an innovative and reflexive approach.

How to do scientific system design - a discussion

The perspective has until now been centred on the discursive construction of Cooperative Design, and it is time to change focus. The perspective will be tuned to an examination of how Cooperative Designs discoursive practice limits the disciplines

reflexive self-understanding. This will be seen in relation to the designers habit of defining their discipline in contrast to related and rival discourses. This limits the ability to explain or analyze itself in new ways. For in legitimizing itself in opposition to related disciplines the practitioners are unable to see that their own discursive practice has inherited much from these other genres and still has aspects in common with them (Pratt, 1986:29).

For example do the practitioners of Cooperative Design believe that their primary work is designing systems:

> "To users, designing a new computer application is secondary, whereas for designers it is their primary work." (Bødker & Grønbæk, 1991:212).

I do not agree , I believe that they are also primarily authors. The practitioners are not unambiguous developers, designers and/or technological experts; they are scientific designers, which implies that they make a living by *doing research*. This means, that the scientific designers test different methods, techniques or theoretical hypothesis during a period of time, and then later write about their experiences. So besides doing system design, the designers also address a community of researchers, who also have interests in the scientific side of system design. This is done via publications, and (according to Foucault, 1972:51) is it in this academic community that the designers get part of their status.

I will clarify my argument using Bourdieu (1977) who assumes, that in a given field there exists power struggles. In the play for power, the struggle is not equal. There are various factors which influences this. For instance, one can use some resources to increase the chances of winning, these resources are capital. One form of capital is the symbolic one, which can be described as something a group of individuals acknowledge as being valuable. Another form of capital is the cultural, which is a wide subdivision of the symbolic capital. Respect/reputation and cultural understanding are examples of cultural capital, but one could also say, that cultural capital is the form of symbolic value, which is the opposite of economic capital. (Bourdieu, 1977; Høiris, 1993; Broady, 1990). If you think in terms of Bourdieu's capital and ascribe scientific work/knowledge to be part of the symbolic, it becomes clear, that the designers with their publications, have a possibility to gain (or loose) cultural capital in the community of system design. This is for instance done by disproving the negative claim that they do project based research, which is a thing Cooperative Design often has been criticized for:

> "Whereas PD and CD literature rarely pays attention to cooperation under the realisation concern, CESD sees cooperative and experimental aspects closely related to realisation." (Grønbæk, Kyng & Mogensen, 1995:27).

Simultaneously this supposition supports my assertion that the scientific designers are also authors. The written practice is an academic field wherefrom they are (mis-) credited for their work - it is a site from where they loose or gain respect and scientific status.

But why isn't the written practice acknowledged in the community of system design? The anthropologist Geertz (1988) posed a similar question in relation to ethnographers work, by pointing out that there exists a form of literary rejection in the anthropological world. This insight has since lead to serious reflections:

> "about textuality, the practice of ethnographic writing, and the fieldwork encounter." (Abu-Lughod, 1993:25).

The neglect of literary work is closely related to the understanding of what a proper ethnographer ought to be doing. If this insight is connected with system design, one has a possibility to understand what is assumed to be (or not to be) proper work, in the scientific world of system design:

"The illusion that ethnography is a matter of sorting strange and irregular facts into familiar and orderly categories—this is magic, that is technology—has long since been exploded. What it is instead, however, is less clear. That might be a kind of writing, putting things to paper, has now and the occurred to those engaged in producing it, consuming it, or both. But the examination of it as such has been impeded by several considerations, none of them very reasonable. One of these, especially weighty among the producers, has been simply that it is unanthropological sort of thing to do. What a proper ethnographer ought properly to be doing is going out to places, coming back with information about how people live there, and making information available to the professional community in practical form, not lounging about in libraries reflecting on literary questions. Excessive concern, which in practice usually means any concern at all, with how ethnographic texts are constructed seems like an unhealthy self-absorption— timewasting at best, hypochondriacal at worst." (Geertz, 1988:1).

Just as a proper ethnographer goes out to places and later makes his/her observations available to other ethnographers, a proper scientific designer also does field work after which he writes a paper or a book based on the *actual facts*.[4] He does not lounge about thinking of how the written representation of the things are, because it is the practical sphere he or she is focusing on changing the existing norms.

Here, I think, things start to go wrong for Cooperative Design. As another anthropologist, Clifford (1986) states, our anonymous knowledge (to use a Foucaultian expression) influences the creation of literary work, because our implicit truths are inherited partly as binding and incomplete in a text:

"[…] all constructed truths are made possible by powerful "lies" of exclusion and rhetoric. Even the best ethnographic text—serious, true fictions—are systems, or economies, of truth. Power and history work through them, in ways their authors cannot fully control. Ethnographic truths are thus inherently partial—committed and incomplete." (Clifford, 1986:7, original italic).

In this way history works through and within us. The implicit constructions are shown in our way of understanding things and the way we express our ideas. It is for instance relatively easy, retrospectively, to see that certain theoretical circles or particular periods of time more or less influence what is acceptable (Van Mannen, 1988:xi). In the example of Cooperative Design one finds the Marxist vocabulary in the 1970-80:es, and the reflexive approach in the 1990:es.

But this does not correct the fact that the discipline does not reflect upon this issue, for a recognition of:

"the degree to which people […] appears as "other" is in part a function of how we write about them" (Abu-Lughod, 1993:15).

would help the scientific designers to their solve some of their discoursive dilemmas.

This is why it is important to acknowledge that the scientific designer is also an author, because this insight can illustrate where some of the mistakes in their practice come from (to use a previously mentioned expression by Greenbaum & Kyng, 1991:8). The mistake I have located in their practice is that they primarily see themselves as technological experts or as designers. In doing so they unambiguously focus on the developmental side of system design. Hereby they obscure the recognition that the Cartesian discourse not only affects the development of system design and its history, but

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[4] Actual facts is in italic because especially researchers within the fields of anthropology and sociology have shown that texts are not value-free, and things such as *actual facts* do not exist in publications (See for instance: Atkinson, 1990; Bazerman, 1988; Latour & Woolgar, 1979; Law & Williams, 1982).

that the Cartesian discourse is to a large extent part of their language and their thoughts. This is why, I think, that the strategy of defining oneself in contrast to related and previous discourses limits the ability to explain or to analyze itself in new ways. For just as the Cartesian discourse speaks through the practitioners of Cooperative Design and makes them use value-laden language, and just as their inherited practice unambiguously makes them focus on the practice of system design, *is* their discoursive practice leading them to forget to focus on their language and on the mistakes which are inherited in this.

Another way the scientific-designers of Cooperative Design reinforce this obscuring effect is by quoting and referring to each other in their publications. In this way the discoursive practice is inherited from text to text, which also blurs the fact that they have a written practice, and that this part of their work is just as important, as the work in the field.

If the scientific-designers reflexivity also includes their textuality, they would be able to see that the history of system design not only affects the technology, but also their language, and hereby the way they represent and describe the other. This is why I do not think it is sufficient merely to take the field work; the technology, and the methods used in design situations into consideration, when they at the same time must (in order to claim status) write about these experiences and knowledge. If the practitioners of Cooperative Design want to escape the Cartesian way of thinking, they must realize that they are more than technological experts with a social understanding: their language is a part of the system design discourse, which among other things is made possible by a conventional discourse, which divides the world in a *we* and *the others*, and which supports existing power relations.

Conclusion

How does the expert domain Cooperative Design construct and constitute itself discoursively as a discipline within the field of Scandinavian System Design, and how does this influence the disciplines scientific practice? These are the questions I have tried to deal with here.

Cooperative Design legitimizes itself as a alternative to the system theoretical and the socio-technical traditions, by using a specific discourse about technology; designers; users and work related circumstances. This discourse must be seen in relation to the fact that the discipline has developed itself against an array of existing dichotomies. These dichotomies, which have made the discipline possible and by which it legitimizes itself are all discoursive legitimizing elements. However as I have tried to illustrate, this has also created some disciplinary dilemmas: the discipline should both maintain sovereignty without loosing its legitimacy *and* the existing complementary sides of the dichotomies have stiffened and restricted the discipline, instead of having opened it up. To be brief, Cooperative Design's discourse ranks and separates as much as the complementary construction it tries to dispose.

I examined this issue from another angle with the insights from sociology's and anthropology's knowledge of written scientific practices. Hereby I was able to show that the discipline's strategy of defining itself in contrast to related and previous discourses, limits its the ability to understand itself in new ways. For even though the practitioners of Cooperative Design think about the fact that the Cartesian discourse influences their understanding of things, the discourse makes them focus unambiguously on the field work. Hereby they forget both to focus on their written practice, and to acknowledge that this part of their work is just as important as the work in the field.

I have focused a lot on analyzing Cooperative Design's discourse. Consequently I will try to examine the theoretic and disciplinary background which are to be found in my discourse. In the same way as I have analyzed Cooperative Design, this paper can be examined in terms of its use of tropes; its management of discursive dilemmas; the relation with other disciplines and the historic construction, which are all a part of the discourses the article moves within. I will therefore accentuate the importance of viewing the paper as a part of the whole, which has been described here. The discourse, I am using, is also a language which influences and speaks through me, whereby I construct things in a specific way - a way that is not necessarily better than Cooperative Designs - a way that is common with the cooperative discourse, because it is made possible by related and previous discourses. It is therefore necessary to see this paper as partly related to the same discourses and scientific relations as the ones Cooperative Design move within: It has a similar rhetoric dependency, and must be seen as an artifact which is situated in different discourses and influenced by different historical constituencies—it is also a part of the truth of this world.

Acknowledgments

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